

Notice of Allowability

Application No.

10/656,120

Examiner

Robert Sellers

Applicant(s)

CRANE ET AL.

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the election and amendment filed 16 May 2005.
2. ☒ The allowed claim(s) is/are 11,14 and 16-28.
3. ☒ The drawings filed on 8 September 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

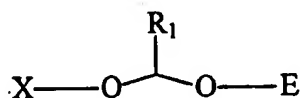
1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 605.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

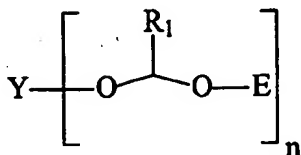
Authorization for this examiner's amendment was given in a telephone interview with Steven C. Bauman on June 17, 2005.

The application has been amended as follows:

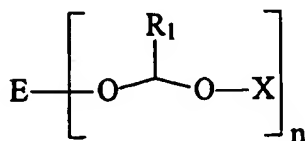
Claim 1, line 7, after "resin" insert --wherein the latent fluxing agent is selected from the group consisting of an α -alkoxyalkyl ester of a carboxyl-containing compound, an α -alkoxyalkyl phenyl ether, and a compound having one or more of the following structures I through VI:



I

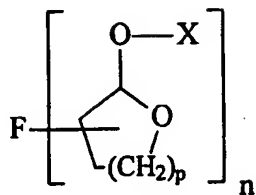


II

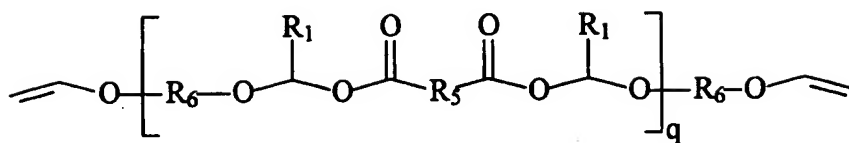


III

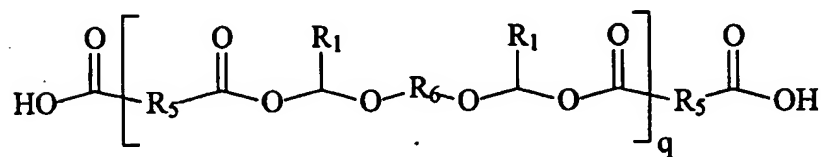
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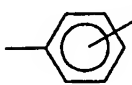
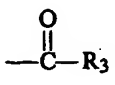
IV

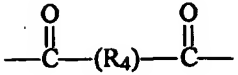
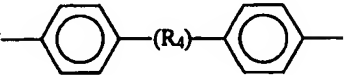


V



VI

wherein X denotes  or  ;

Y denotes  or  ;

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E denotes an organic group derived from a 1-alkenyl ether and is selected from the group consisting of a hydrocarbon, ether, thioether, ester, thioester, carbamate, amide, and a combination thereof;

F denotes an organic group fragment derived from a multifunctional 1-cycloalkenyl ether wherein the cyclic ether groups are linked through F, and is selected from the group consisting of a hydrocarbon, ether, thioether, ester, thioester, carbamate, amide, and a combination thereof;

R₁ represents a C₁-C₆ alkyl group;

R₂ and R₃ are independently selected from the group consisting of hydrogen, substituted or unsubstituted linear or branched C₁-C₂₂ alkyl, aryl, alkaryl, cycloalkyl, alkoxy and phenyl;

R₄ is selected from the group consisting of a substituted or unsubstituted linear or branched C₁-C₂₂ alkylene, alkenylene, arylene, alkylenearyl, cycloalkylene, alkyleneoxy and phenylene;

R₅ and R₆ are independently selected from the group consisting of linear or branched C₁-C₂₂ alkylene, alkenylene, arylene, alkylenearyl, cycloalkylene, alkyleneoxy and phenylene;

n is an integer of from 2-30, p is an integer of 1 or 2 and q is an integer of from 5-30.

Claim 16, line 1, change the dependency from "15" to --11--.

Claim 17, lines 3-5, delete each occurrence of the term "type."

Claim 26, line 11, delete "acid."

Cancel claims 12, 13 and 15.


The following is an examiner's statement of reasons for allowance:

The examiner's amendment hereinabove limits the latent fluxing agent of independent claim 1 to either an α -alkoxyalkyl ester of a carboxyl-containing compound, an α -alkoxyalkyl phenyl ether or a compound having one or more of the following structures I through VI depicted in claim 15. Independent claim 26 is confined to an α -alkoxyalkyl ester reaction product of a carboxylic acid and vinyl ether, or an α -alkoxyalkyl phenyl ether reaction product of a phenol and a vinyl ether. The limitation of the latent fluxing agent to such species overcomes the closest prior art to Zhou et al. Patent No. 5,985,043; PCT Publication No. WO 98/37134, Konarski et al. Patent Nos. 6,458,472 and 6,706,417 as well as claim 25 of pending application no. 11/003,661 which set forth acidic fluxing agents. The specific reaction products and structures of claims 1 and 26 denote a masked carboxylic acid or phenol not recited by the patents and application.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Sellers whose telephone number is (571) 272-1093. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

rs 6/21/2005



ROBERT E.L. SELLERS
PRIMARY EXAMINER